

Appln. No. 10/624,378  
Amdt. Dated May 9, 2005  
Reply to Office Action dated: Feb. 9, 2005

### **Remarks/Arguments**

These remarks are in response to the Office Action dated February 9, 2005. This reply is timely filed.

At the time of the Office Action, claims 1-32 were pending in the application. Claims 13-15 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 13-15 have been amended to correct these errors and are now believed to be in condition for allowance. Claims 1, 12, 16-17, 19, 21 and 30-32 were rejected under 35 U.S.C. 103(a). Claims 19, 21, 23, 24, and 26-32 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting. The rejections are set out in more detail below.

#### **I. Brief Review of Applicants' Invention**

Prior to addressing the Examiner's rejections on the art, a brief review of applicants' invention is appropriate. The invention relates to a variable waveguide attenuator that includes at least one waveguide attenuator cavity. A fluidic dielectric having a loss tangent, a permittivity and a permeability is at least partially disposed within the waveguide attenuator cavity. At least one composition processor is included and adapted for changing a physical characteristic and/or an electrical characteristic of the variable waveguide attenuator. For instance, the composition processor can selectively vary the shape and/or volume of the fluidic dielectric while selectively varying the loss tangent, the permittivity and/or the permeability of the fluidic dielectric. A controller is provided for controlling the composition processor.

#### **II. Claim Rejections on Art**

Claims 1, 12, 16-17, 19, 21 and 30-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,604,592 to Pinson in view of U.S. Patent No. 6,743,371 to John et al. Amended claims 1 and 19 recite, inter alia, dynamically changing an electrical characteristic and/or a physical characteristic of a waveguide by manipulating a fluidic dielectric to selectively vary at least one parameter selected from the group consisting of a volume and a shape, and selectively vary at least one

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Appln. No. 10/624,378  
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parameter selected from the group consisting of a loss tangent, a permittivity and a permeability of said fluidic dielectric. None of the cited references teach or suggest this limitation. Instead, Pinson teaches merely changing the position of a ferromagnetic fluid, but does not suggest changing a loss tangent, permittivity or permeability of the ferromagnetic fluid. Similarly, John also fails to suggest changing a loss tangent, permittivity or permeability of the ferromagnetic fluid. Instead, John applies a magnetic field to a fluid to change the conductivity of the fluid. Accordingly, Claims 1 and 19 are believed to be allowable over the cited references. Claims 12, 16, 17, 21 and 30-32 are believed to be allowable at least based on their dependence on an allowable base claim.

### III. Double Patenting

Claims 19, 21, 23, 24, and 26-32 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 10/414,696. Claim 19 has been amended and is believed to be patentably distinct from claims 1-18 of the co-pending Application. Accordingly, withdrawal of these rejections is respectfully requested.

### IV. Allowable Subject Matter

Claims 2-11, 18, 20 and 22 were objected to as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 2-11, 18, 20 and 22 have been amended accordingly, and thus are believed to be in condition for allowance.

### V. Conclusion

For the foregoing reasons, this entire application is believed to be in condition for allowance. Consequently, such action is respectfully requested. The Applicants

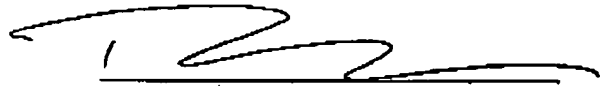
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Appin. No. 10/624,378  
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request that the Examiner call the undersigned if clarification is needed on any matter within this Amendment, or if the Examiner believes a telephone interview would expedite the prosecution of the subject application to completion.

Respectfully submitted,

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Date



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